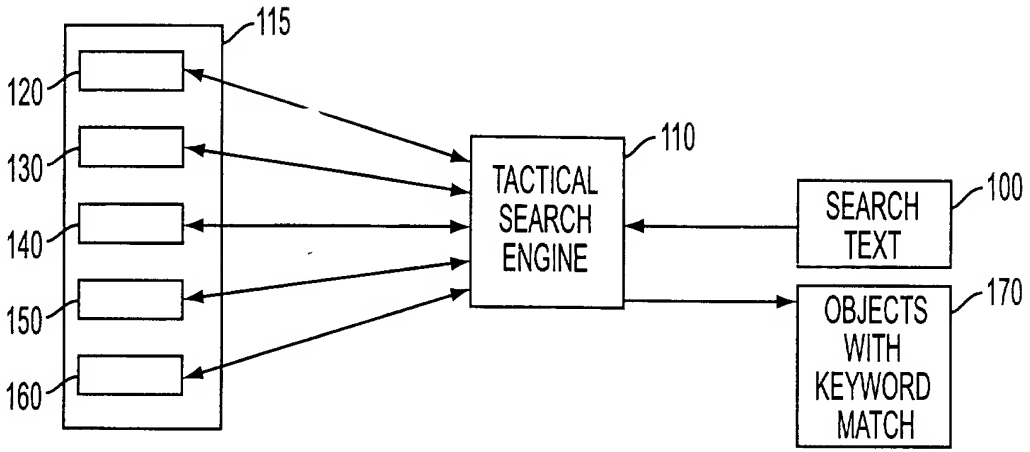

FIG. 1
(PRIOR ART)

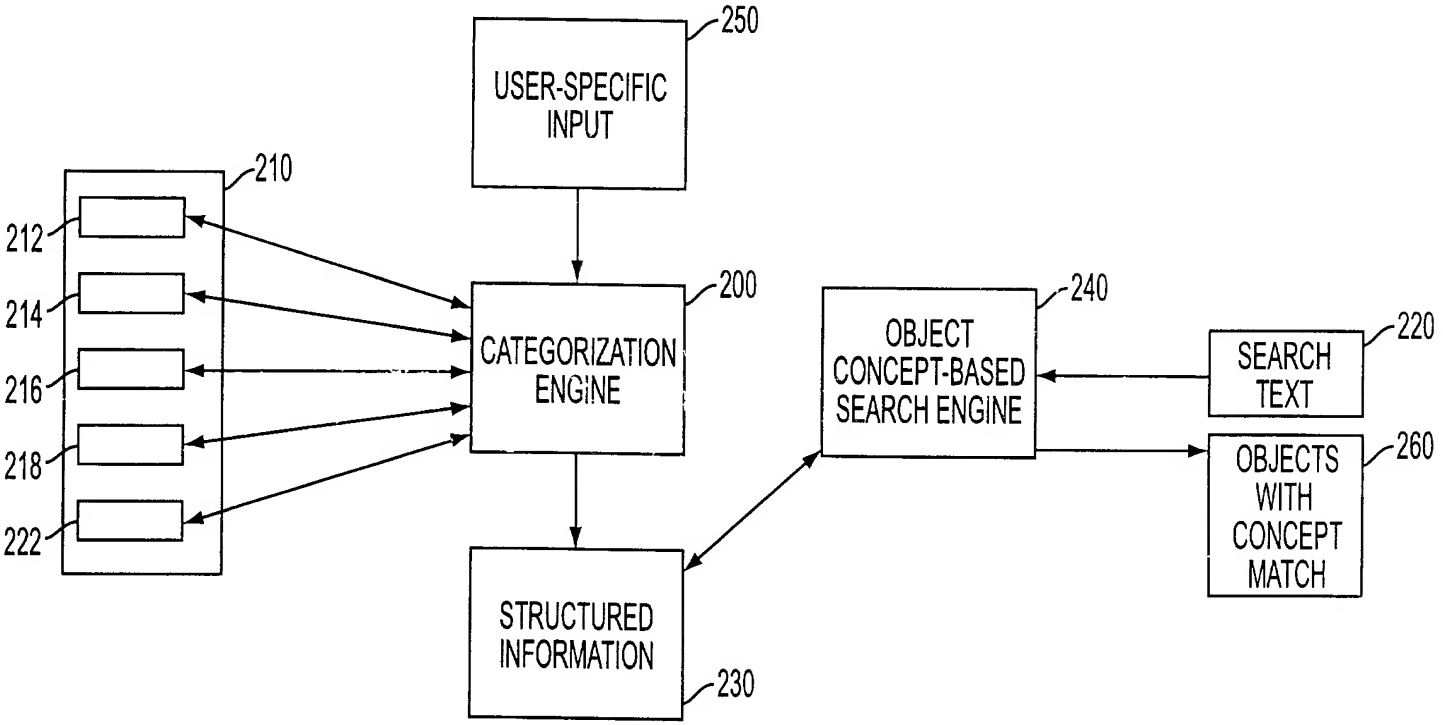
USER-SPECIFIC INPUT
250
210
212
214
216
218
222
CATEGORIZATION ENGINE
200
OBJECT CONCEPT-BASED SEARCH ENGINE
240
SEARCH TEXT
220
OBJECTS WITH CONCEPT MATCH
260
STRUCTURED INFORMATION
230

FIG. 2

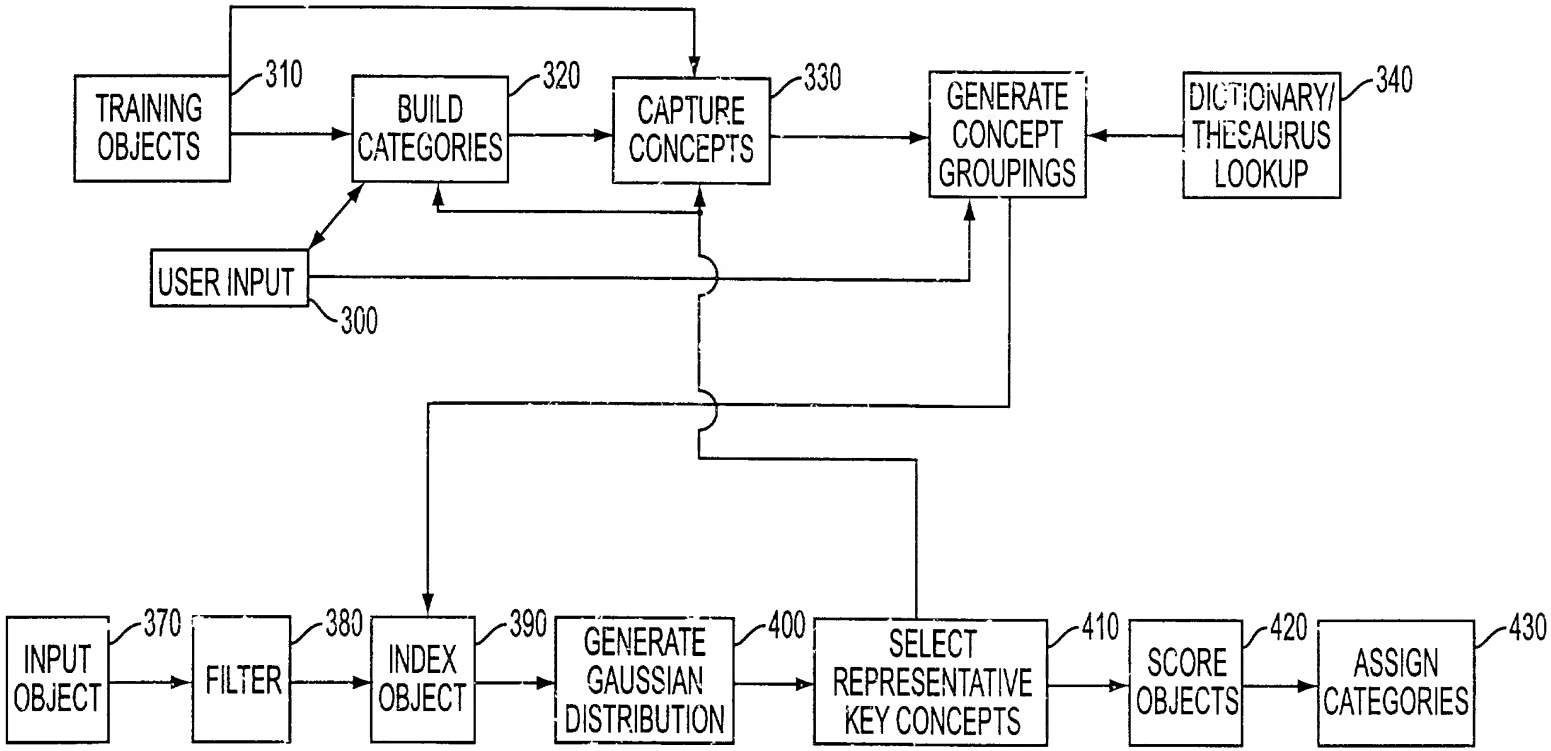
TRAINING OBJECTS
310
BUILD CATEGORIES
320
CAPTURE CONCEPTS
330
GENERATE CONCEPT GROUPINGS
DICTIONARY/ THESAURUS LOOKUP
340
USER INPUT
300
INPUT OBJECT
370
FILTER
380
INDEX OBJECT
390
GENERATE GAUSSIAN DISTRIBUTION
400
SELECT REPRESENTATIVE KEY CONCEPTS
410
SCORE OBJECTS
420
ASSIGN CATEGORIES
430

FIG. 3

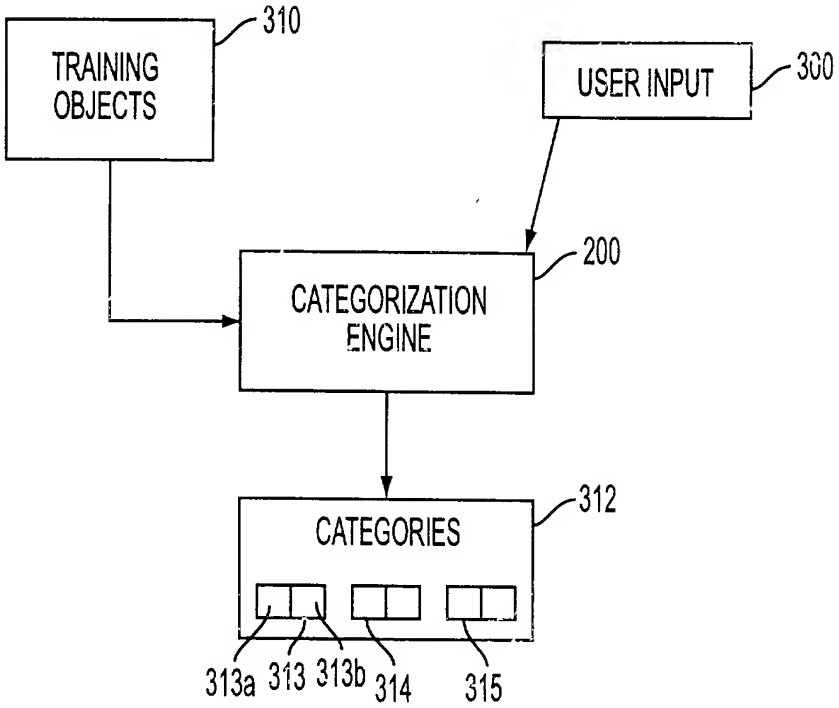
TRAINING OBJECTS
310
USER INPUT
300
CATEGORIZATION ENGINE
200
CATEGORIES
312
313a
313
313b
314
315

FIG. 4

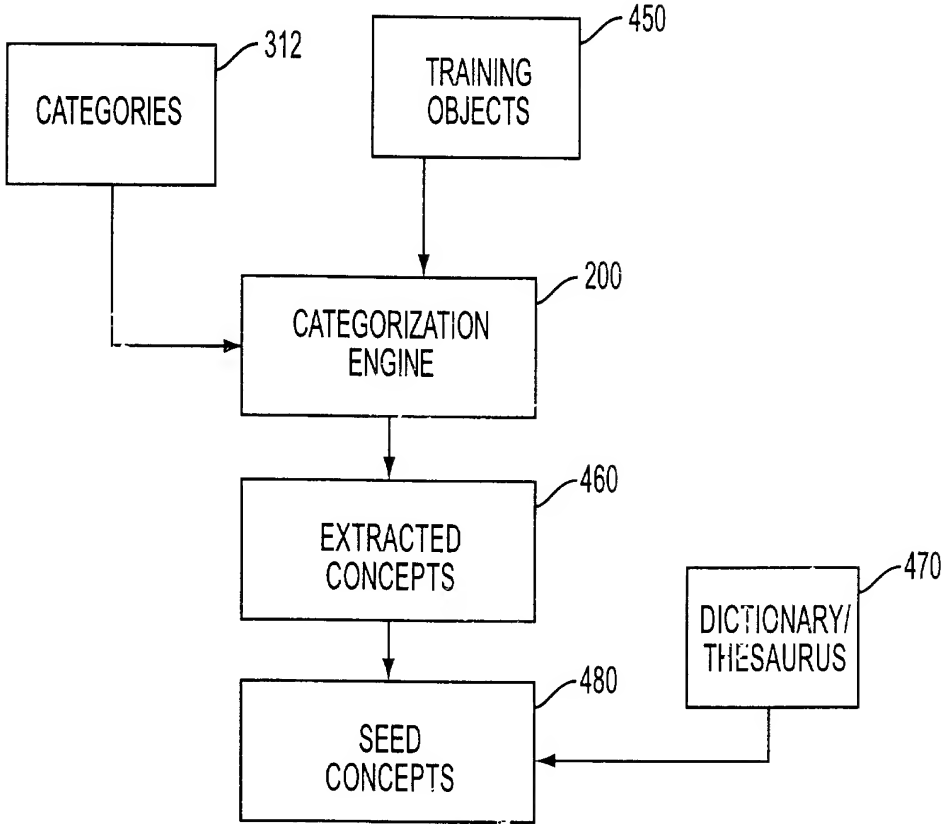
CATEGORIES
312
TRAINING OBJECTS
450
CATEGORIZATION ENGINE
200
EXTRACTED CONCEPTS
460
DICTIONARY/ THESAURUS
470
SEED CONCEPTS
480

FIG. 5

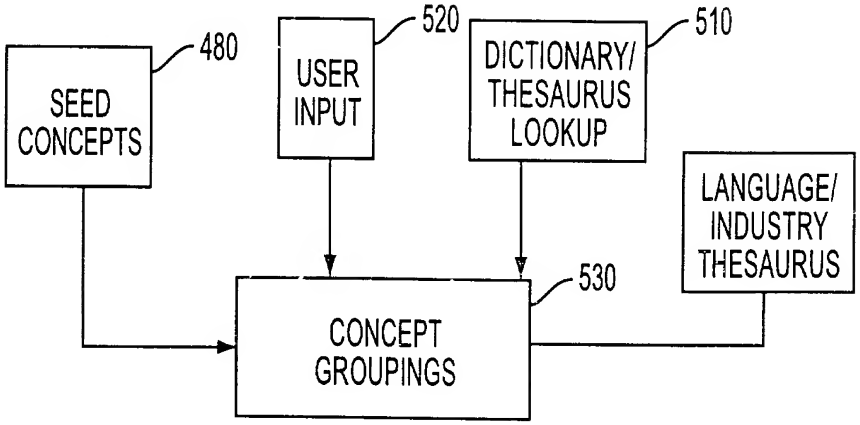
SEED CONCEPTS
480
USER INPUT
520
DICTIONARY/ THESAURUS LOOKUP
510
LANGUAGE/ INDUSTRY THESAURUS
CONCEPT GROUPINGS
530

FIG. 6

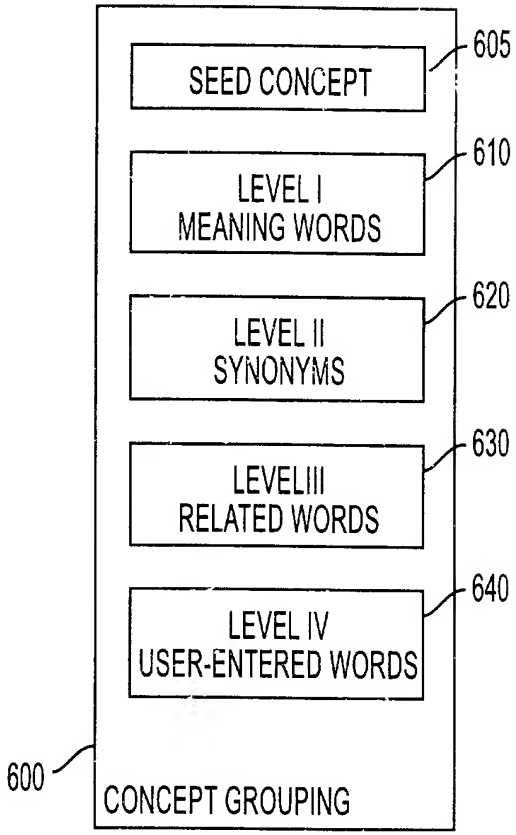
SEED CONCEPT
605
LEVEL I
MEANING WORDS
610
LEVEL II
SYNONYMS
620
LEVELIII
RELATED WORDS
630
LEVEL IV
USER-ENTERED WORDS
640
600
CONCEPT GROUPING

FIG. 7

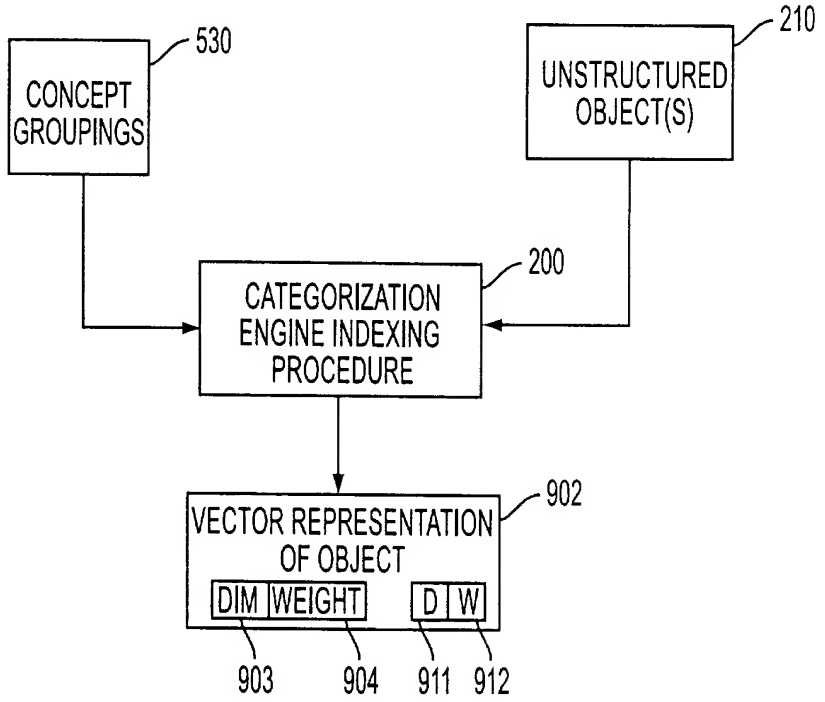
CONCEPT GROUPINGS
530
UNSTRUCTURED OBJECT(S)
210
CATEGORIZATION ENGINE INDEXING PROCEDURE
200
VECTOR REPRESENTATION OF OBJECT
902
DIM
WEIGHT
D
W
903
904
911
912

FIG. 8

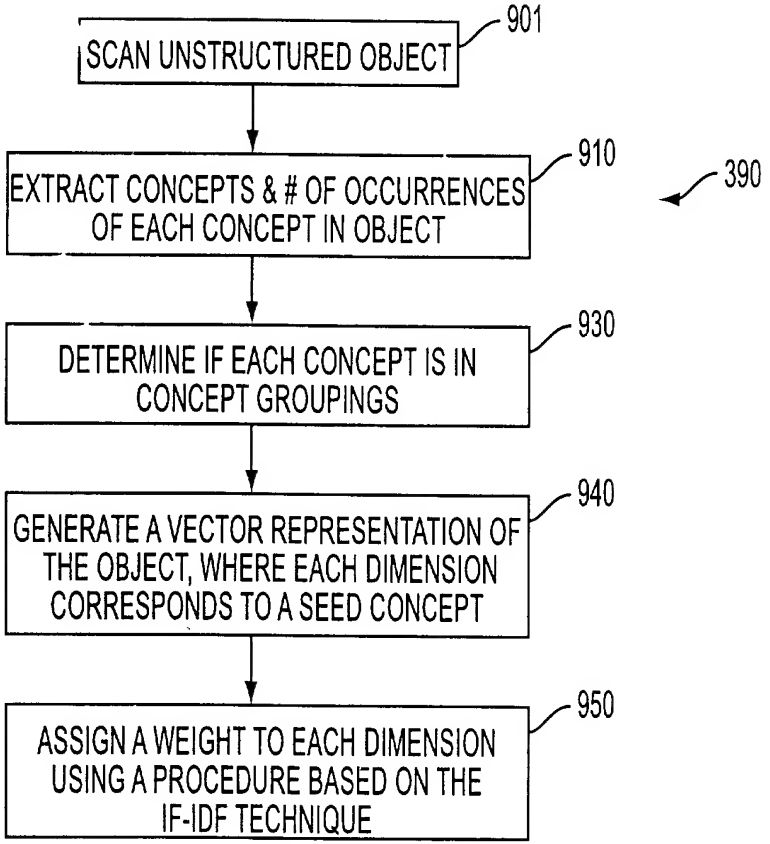
SCAN UNSTRUCTURED OBJECT
901
EXTRACT CONCEPTS & # OF OCCURRENCES OF EACH CONCEPT IN OBJECT
910
390
DETERMINE IF EACH CONCEPT IS IN CONCEPT GROUPINGS
930
GENERATE A VECTOR REPRESENTATION OF THE OBJECT, WHERE EACH DIMENSION CORRESPONDS TO A SEED CONCEPT
940
ASSIGN A WEIGHT TO EACH DIMENSION USING A PROCEDURE BASED ON THE IF-IDF TECHNIQUE
950

FIG. 9

1008753.060502

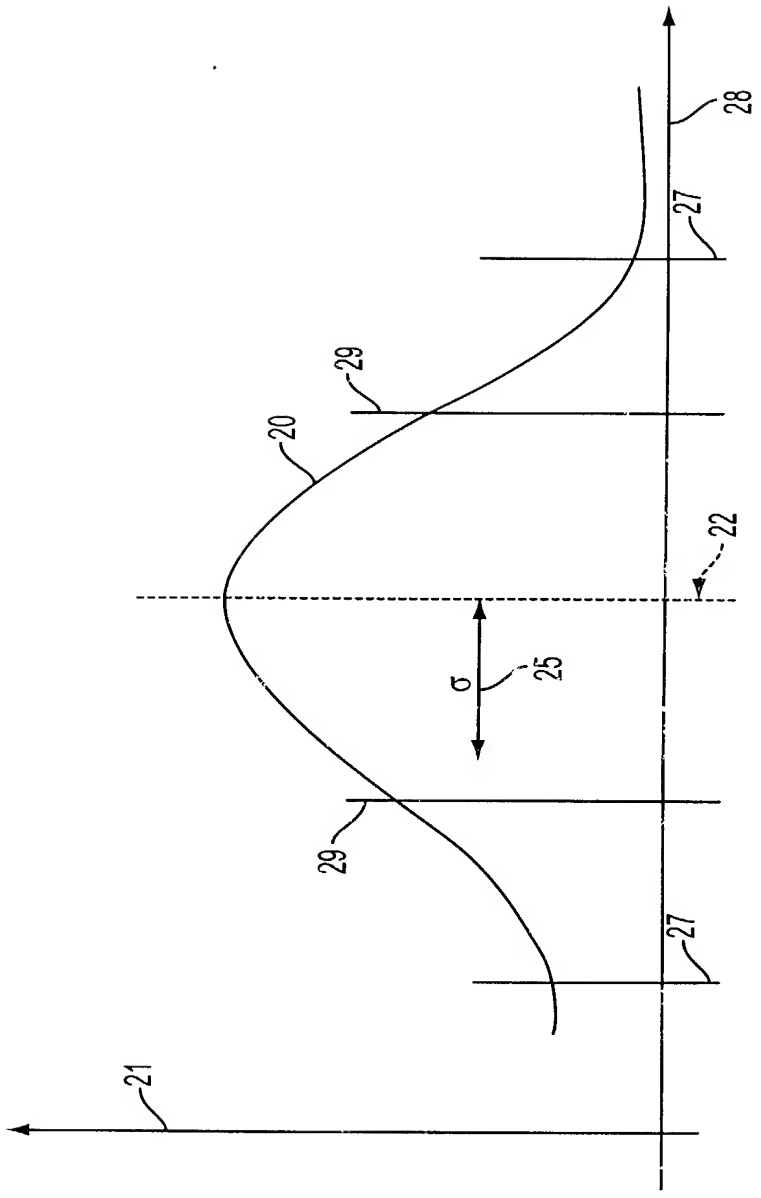

FIG. 10

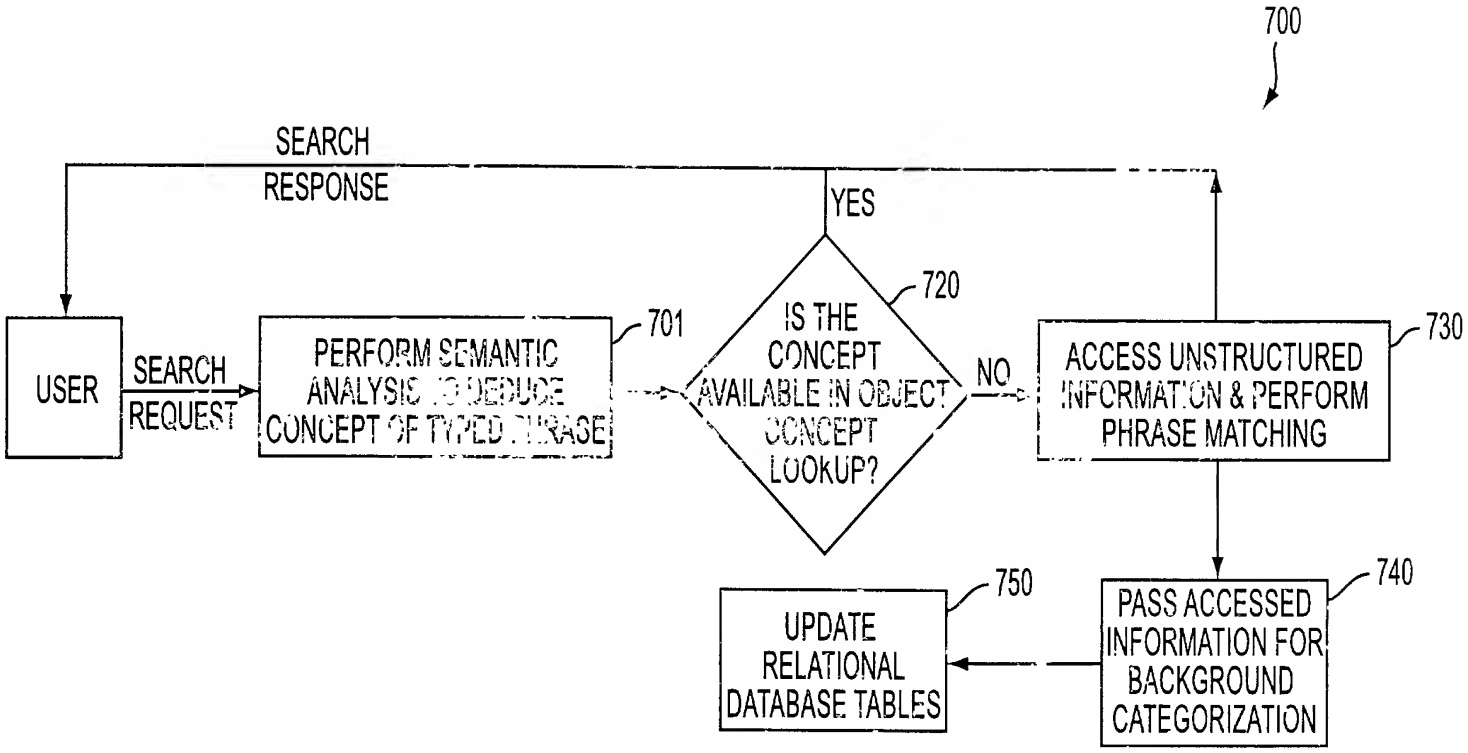
700
SEARCH
RESPONSE
YES
720
IS THE
CONCEPT
AVAILABLE IN OBJECT
CONCEPT
LOOKUP?
NO
USER
SEARCH
REQUEST
PERFORM SEMANTIC
ANALYSIS TO DEDUCE
CONCEPT OF TYPED PHRASE
701
ACCESS UNSTRUCTURED
INFORMATION & PERFORM
PHRASE MATCHING
730
UPDATE
RELATIONAL
DATABASE TABLES
750
PASS ACCESSED
INFORMATION FOR
BACKGROUND
CATEGORIZATION
740

FIG. 11